

Unit Planning Guide: Grade 1 Unit 4 of 4

Unit Title: Geometry and Measurement	Pacing (Duration of Unit): 10 weeks
Grade 1	Buffer Day(s): 2

Desired Results

Transfer Goals (Priority practice standards in **bold**)

Students will be able to independently use their learning to:

- MP.1. Make sense of problems and persevere in solving them.
- MP.2. **Reason abstractly and quantitatively.**
- MP.3. Construct viable arguments and critique the reasoning of others.
- MP.4. Model with mathematics.
- MP.5. **Use appropriate tools strategically.**
- MP.6. **Attend to precision.**
- MP.7. **Look for and make use of structure.**
- MP.8. Look for and express regularity in repeated reasoning.

Established Goals (2011 MA Curriculum Frameworks Standards Incorporating the Common Core State Standards)

Prerequisite Standards:

-
-
-

Standards (Priority Standards in **bold**):

Operations and Algebraic Thinking 1.OA

Represent and solve problems involving addition and subtraction.

1. Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations

WIDA for English Language Learners

Standard 1: ELLs **communicate** for **Social** and **Instructional** purposes within the school setting

Standard 3: ELLs **communicate** information, ideas and concepts necessary for academic success in the content area of **Mathematics**

In the lesson planning stage, teachers will need to differentiate lessons for ELLs. In order to accomplish this they will need: 1.) this curriculum map, 2.) a list of their ELLs and their proficiency levels, and 3.) appropriate language function expectations and scaffolds or supports.

Unit Planning Guide: Grade 1 Unit 4 of 4

with a symbol for the unknown number to represent the problem.⁹

2. Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.

Add and subtract within 20.

6. Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use mental strategies such as counting on; making ten (e.g., $8 + 6 = 8 + 2 + 4 = 10 + 4 = 14$); decomposing a number leading to a ten (e.g., $13 - 4 = 13 - 3 - 1 = 10 - 1 = 9$); using the relationship between addition and subtraction (e.g., knowing that $8 + 4 = 12$, one knows $12 - 8 = 4$); and creating equivalent but easier or known sums (e.g., adding $6 + 7$ by creating the known equivalent $6 + 6 + 1 = 12 + 1 = 13$).

Number and Operations in Base Ten 1.NBT

Understand place value.

2. Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases:
 - a. 10 can be thought of as a bundle of ten ones—called a “ten.”
 - b. The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones.
 - c. The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).

Use place value understanding and properties of operations to add and subtract.

4. **Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten.**

Measurement and Data 1.MD

Measure lengths indirectly and by iterating length units.

1. **Order three objects by length; compare the lengths of two objects indirectly by using a third object.**

Unit Planning Guide: Grade 1 Unit 4 of 4

2. Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. *Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlaps.*

Tell and write time.

3. Tell and write time in hours and half-hours using analog and digital clocks.

Represent and interpret data.

4. Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another.

Work with Money

MA.5. Identify the values of all U.S. coins and know their comparative values (e.g., a dime is of greater value than a nickel).

Find equivalent values (e.g., a nickel is equivalent to 5 pennies). Use appropriate notation (e.g., 69¢). Use the values of coins in the solutions of problems.

Geometry 1.G

Reason with shapes and their attributes.

1. Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size); build and draw shapes that possess defining attributes.
2. Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape.¹¹
3. Partition circles and rectangles into two and four equal shares, describe the shares using the words *halves*, *fourths*, and *quarters*, and use the phrases *half of*, *fourth of*, and *quarter of*. Describe the whole as two of, or four of the shares. Understand for these examples that decomposing into more equal shares creates smaller shares.

Unit Planning Guide: Grade _1_ Unit __4_ of _4__

Meaning (*Mostly assessed through Performance Tasks/Assessments)

Big Ideas: (Statements and concepts written in teacher friendly language which reflect the important [but not obvious] generalizations we want students to be able to arrive at. These are used by the teacher to focus daily instruction.)

- Measurements can be used to compare objects and determine a length
- Time can be represent in digital or analog form. It is measured in hours, minutes, and second.
- Data can be sorted, organized, represented, and interpreted.
- Coins have different values and those values can be compared.
- Two and three-dimensional objects with or without curved surfaces can be described, classified, and analyzed by their attributes.
- Fractions are equal parts of a whole.

Essential Questions: (Questions which frame ongoing and important inquires about the big ideas. They are written for students and used in daily instruction to help engage students in meaningful thinking.)

- Why do we measure objects?
- What is time?
- Why do we use money?
- How can fractions be used to name parts of a whole object?
- How can graphs be used to show data and answer questions?
- How can shapes and solids be described and used to make other shapes?

Acquisition (*Mostly assessed through traditional summative assessments)

Knowledge: Key basic concepts, facts, and key terms (written in phrases) students should be able to recall independently.

Students will know ...

- Objects can be compared and ordered by length.
- Two objects can be compared by using a third object.
- Objects can be measured with non-standard units with no gaps or overlaps.
- Time can be measured to the hour and half - hour.
- That data can be collected, organized, and interpreted.
- Data can be represented visually using tables, charts and graphs.
- That data can be used to solve problems.
- Shapes and objects can be defined and classified by attribute.
- Wholes can be divided into equal parts called fractions.

Skills: The discrete skills and process students should be able to use independently.

Students will be skilled at:

- Measuring objects and comparing length of objects. (Analyzing)
- Telling time to the hour and half hour on digital and analog clocks. (Remembering)
- Collecting, organizing, and interpreting data. (Analyzing)
- Using data to solve problems. (Applying)
- Defining attributes in shapes and objects. (Remembering)
- Composing two-dimensional and three-dimensional shapes to create new shapes. (Creating)
- Dividing wholes into equal shares (halves and fourths/quarters) (Applying)
- Adding a one digit to a two-digit number, and a two-digit number to a multiple of 10, and be able to explain reasoning. (Analyzing)
- Using addition and subtraction within 20 to solve word problems. (Applying)

Unit Planning Guide: Grade 1 Unit 4 of 4

Academic Vocabulary –

Time- analog, digital, hour & minute hands

Data – sort, category, picture, bar, tally

Geometry – rectangle, square, trapezoid, half-circles, quarter-circles, cubes, right rectangular prisms, right circular cones, right circular cylinders, corners, sides, surface, vertex, vertices

Fractions – halves, fourths, quarters, whole

- Fluently adding and subtracting within 10. (Remember)
- Using mental strategies to compose and decompose numbers within 20.(Applying)
- Using place value understanding to add and subtract numbers. (Understanding)

Resource Suggestions: